

two forms. The female skulls being more or less in all mammals, but especially in Ruminants, more *conservative* than the skulls of males, the resemblance of the Siwalik skull to a more generalized type, as represented by the *Helladotherium* skull of Pikermi, is not more than we might have anticipated.

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June 2, 1891.

Prof. Flower, C.B., LL.D., F.R.S., President, in the Chair.

The Secretary read the following report on the additions to the Society's Menagerie during the month of May 1891:—

The registered additions to the Society's Menagerie during the month of May 1891 were 163 in number. Of these, 96 were acquired by presentation, 41 by purchase, 4 by exchange, 10 were born in the Gardens, and 12 were received on deposit. The total number of departures during the same period, by death and removals, was 89.

Amongst the former special attention may be called to the following:—

1. A female Water-buck Antelope (*Cobus ellipsiprymnus*) from British East Africa, presented by George L. Mackenzie, Esq., F.Z.S. This is a very acceptable arrival, as making a pair with the male of the same Antelope presented by Mr. Mackenzie in November last (see P. Z. S. 1890, p. 589).

2. Three Blanford's Rats (*Mus blanfordi*) from the Shevaroy Hills, Madras, presented by Mr. W. L. Sclater, F.Z.S., Deputy Superintendent of the Indian Museum, Calcutta. This species is new to the Collection.

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Mr. Sclater made some remarks on animals which he had noticed during a recent visit to the Zoological Gardens of Paris, Ghent, Antwerp, Rotterdam, Amsterdam, and The Hague.

In the Jardin d'Acclimatation at Paris the colony of breeding Penguins, which Mr. Sclater had also inspected in the summer of 1890, was of special interest to the ornithologist. Twenty-two examples of the Black-footed Penguin (*Spheniscus demersus*) were kept in an open wire enclosure. Many of these had paired and nested in some wooden dog-kennels which had been placed in the enclosure. Last year five birds had been bred, and only one of these had been lost.

Of the three Sea-Lions living in the Jardin d'Acclimatation, one adult male appeared to be referable to *Otaria stelleri* and not to *O. gillespii*, the species usually brought from the Pacific coast of America, from which it seemed to be distinguishable externally by the sudden elevation of the front part of the cranium. But this determination would require confirmation after the death of the specimen.

A remarkable hybrid Pheasant in this Garden was said to have

been produced by a male *Lophophorus impeyanus* and a female *Euplocamus albocristatus*.

The Menagerie in the Jardin des Plantes was fortunate in still having a male example of the Black African Rhinoceros (*Rhinoceros bicornis*), received about ten years ago.

From the Antwerp Gardens Mr. Sclater had succeeded in obtaining a few interesting birds for the Society's collection. Amongst these were two small Hornbills (*Toccus erythrorhynchus*) and two African Spoonbills (*Platalea alba*), the latter being new to the Society's series.

In the Zoological Gardens of Rotterdam two interesting Antelopes had lately been received from the Congo: these were a female of *Tragelaphus gratus* and a male *Cephalophus dorsalis*. The colony of wild Herons adjoining the large covered aviary in which the Night-Herons bred (see P. Z. S. 1889, p. 219) was still flourishing and consisted this year of twenty-eight pairs.

The Gardens of the Royal Zoological Society of Amsterdam (since the death of the late Mr. Westerman under the direction of Dr. C. Kerbert) had been next visited and many objects of interest had been noted. Amongst these were a pair of the Elk (*Alces machlis*), born in the Gardens on the 13th of June, 1890, a pair of the Banteng Ox of the Sunda Island (*Bos banteng*), and a female example of the Sassabey Antelope (*Damalis lunata*). The herd of the graceful Antelope (*Tragelaphus gratus*) (see above p. 213) now consisted of a male, two females, and two young ones lately born.

In the small Zoological Garden at the Hague, Mr. Sclater had noticed an example of a beautiful species of Ground-Pigeon, *Phlegoenas tristigmata*, (see Ibis, 1865, pl. ix.), of Celebes, which he had never seen before alive.

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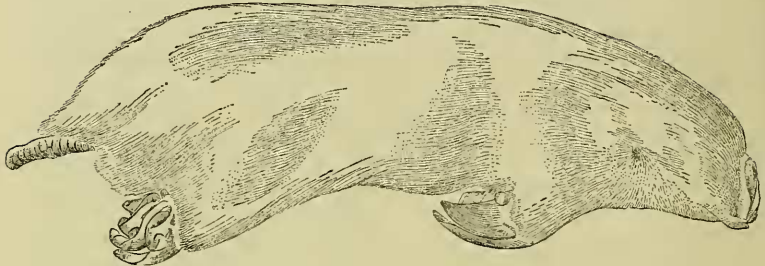
A drawing, sent to England by Professor E. C. Stirling of the University of Adelaide, M.D. and a Corresponding Member of the Society, was exhibited. This, being the first received in Europe, represented the remarkable Australian mammal which that gentleman had now called *Notoryctes typhlops*, having described it without a name in 'Nature' (vol. xxxviii. p. 588) of the 18th of October, 1888, in the following terms:—

"The total length is 13 cm., inclusive of the tail, which is 2 cm. long. The head, relatively shorter than in *Chrysochloris*, has a rounded muzzle, the dorsal surface of which is covered by a horny shield. Nostrils transversely slit-like. No eyes visible, the skin passing uninterruptedly over the ocular region; but on reflecting the skin on one side of the face a small circular pigment-spot is visible in the position of the eye. No apparent bony orbit. Tongue fleshy, broad at the base, and tapering to a blunt point. No external ears, but the ear-openings distinct, 1 mm. wide, and covered over with fur.

"The fore limbs are short, resembling somewhat those of a Mole; but the manus is folded, so that the large nails of the fourth and fifth digits only are visible in the natural position of the limbs. Of these nails the fourth is 15 mm. long and of a uniform width of

4 mm., ending very bluntly; the fifth is very slightly shorter than the fourth, broad at the base (8 mm.), tapering rapidly to a blunt point, the two together forming an outline rather like that of a goose-mussel (*Lepas*). The nails of the third, second, and first digits, very much smaller, form a series gradually diminishing in size in the order named, and constitute a second row on the inside of the fourth and fifth, by which, as stated, they are completely concealed from view. What corresponds to the palm is the cleft between the two rows of digits.

“The hind limbs are also short, with the soles turned outwards.



Outline of *Notoryctes typhlops*.

What appears to be the fifth (anterior) digit is very short, with a short, broad, and strong nail; the fourth is armed with a long (7 mm.), narrow, curved, and sharp claw; while the claws of the third, second, and first are broad, flat, rounded at their points, and joined together by a membrane which extends nearly to their points. On the sole there is a hard, elongated, horny tubercle crossing it transversely.

“The tail 2 cm. long, and 5 mm. wide at the insertion, tapers to 3 mm. and terminates in a knob-like tip.

“About 15 mm. in front of the vent (? cloaca) there is a pouch in the integument about 4 mm. wide, with the opening directed backwards and having a depth in a forward direction of from 4–5 mm. The surface of this pouch is devoid of hair, but the bare area is surrounded by thick fawn-coloured fur, with a slightly reddish tint; it is possible, however, that this reddish tint is due wholly or in part to some ferruginous-looking sand which is much mixed up with the fur. The body generally, with the exception of the lower two-thirds of the tail, which is bare, is covered with fur of a rather lighter tint.

“With regard to the internal parts, it is unfortunate that the specimen came to us completely eviscerated and in a bad state of preservation generally; but in a small part of the lower bowel which was left, remains of ants were found. The bowel terminates at a wide vent (? cloaca), and I can find no trace of a separate genital aperture, nor of such openings into the supposed cloaca. I have not yet had time to examine with minuteness the skeleton, which

unfortunately is also considerably damaged, especially about the occipital region; but from a cursory examination of the recently skinned body, I can note the following points with, I believe, accuracy:—

“Cranium relatively large, no bony orbits; zygomatic arches present; well-developed shoulder-girdles with slender clavicles, pectoral muscles large; pelvis large and strong, with a rather wide symphysis pubis, but no epipubic bones, either actual or rudimentary; ribs 14; angle of lower jaw markedly inflected.

“The teeth are peculiar, and require a more extended description than I can give at present, but the formula appears to be:—

$$i. \frac{3}{3}, c. \frac{1}{1}, m. \frac{6}{5} \left( ? \begin{array}{l} p. 2, m. 4 \\ p. 1, m. 4 \end{array} \right).$$

“This, however, may require some modification, as just posterior and external to the premolar (or first molar) of the right ramus of the mandible there is a small rudimentary conical tooth, which is not to be found on the opposite side, nor at corresponding positions in the maxilla.”

Portions of a letter since addressed by Professor Stirling, on 29th of October, 1890, to Professor Newton were also read as follows:—

“... As to the new beast... I am very sorry that various causes... have prevented my working it out... It turns out not to be a Monotreme, but a Marsupial, with Mole-like configuration. The marsupial bones are exceedingly small nodules and escaped my notice at first. Four or five of the cervical vertebræ are fused, and there is a keeled sternum, an enormously thick and short first rib, which serves the purpose of buttressing the sternum in lieu of coracoids; a bird-like pelvis, with the ischia abutting on the spinal column; penis in the urogenital canal, and testes external in front of the penis; eyes mere pigment-spots underneath the skin and *temporalis* muscle. Altogether it is a curious beast... the Mole-type of Marsupials. It has a remarkable habit of burrowing for long distances in the sand, and with great rapidity... I have four specimens, but only one in good preservation, which is not to be wondered at when I say that they came 1500 miles wrapped up in a kerosined rag, and I have not been able to get any more... This is the whole story and I regret the delay... While I am working it out I should like to keep all the specimens I have, as, with one exception, they are not good alike in the soft parts, and I shall want them to supplement each other.”

In a later letter from Prof. Stirling, dated 29th March, 1891, he informed the same correspondent that he was then about to cross the Australian continent from Port Darwin to Adelaide, where he expected to arrive about the present time, hoping to travel through the portion of the country inhabited by *Notoryctes*, and to obtain from the natives some more specimens, though he was careful to say that “they are not common” there. The full description of this form had, it was understood, already appeared in the ‘Transactions of the Royal Society of South Australia,’ though no copy of it had yet reached England.



The Secretary exhibited on behalf of Mr. F. E. Blaauw, C.M.Z.S., specimens of some Long-tailed Tits shot by him last year in Holland and belonging to the museum of the Royal Zoological Society "Natura Artis Magistra." They had been sent to this country for the purpose of ascertaining whether they belonged to the British form *Acredula rosea* or the white-headed Continental form *A. caudata* (see Dresser's 'Birds of Europe,' vol. iii. pp. 63-67). There could be no doubt that these birds belonged rather to the British form with striped head; but Mr. Blaauw stated that the white-headed form was also met with in Holland, and that he had occasionally observed examples of the two forms paired together.

Mr. Frank Finn, B.A., exhibited a male hybrid between the Chilian Pintail (*Querquedula spinicauda*) ♂ and Summer Duck (*Æx sponsa*) ♀, bred in the Gardens, and pointed out that it differed from both parents, though it was to a certain extent intermediate.

The following papers were read:—

1. On the Land and Freshwater Shells of Perak.

By O. F. VON MOELLENDORFF, Ph.D.

[Received April 15, 1891.]

(Plate XXX.)

Since the publication of my paper on the Land-Shells of Perak (Journ. As. Soc. Beng. lv. pt. ii. no. 4, 1886), Dr. R. Hungerford has been kind enough to supply me with some more materials from that hitherto very imperfectly known region. Mr. J. de Morgan, who collected in Perak in 1884, published descriptions of some new species in 'Le Naturaliste' (vii. 1885, no. 9, pp. 68-70), and gave a more extensive memoir on the conchological fauna of the Malacca peninsula in the Bulletin Soc. Zool. de France (x., 1885), with figures of his novelties. This latter work I did not know of when I wrote the above-mentioned paper, and the study of it now enables me to rectify some of my former classifications, and at the same time to correct a number of errors contained in de Morgan's work. I think it therefore advisable to give now a revised catalogue of all the Land and Freshwater Shells at present known from Perak, with descriptions of some further new species.

Fam. STREPTAXIDÆ.

1. STREPTAXIS PLUSSENSIS, de Morgan.

*Streptaxis plussensis*, de Morgan, Le Nat. 1885, p. 68; Bull. Soc. Zool. Fr. x. 1885, p. 23, t. i. fig. 1.

Mt. Tchehel, Pluss valley (*de Morgan*).

A good new species, somewhat related to *S. lemyrei*, Morel., from Cambodia.

Dr. Hungerford obtained at Bukit Pondong a few specimens o